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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,242	08/27/2001	Michael L. Van De Vanter	004-4911-1	7182
22120 75	90 07/28/2005		EXAMINER	
ZAGORIN O'BRIEN GRAHAM LLP			INGBERG, TODD D	
7600B N. CAPITAL OF TEXAS HWY. SUITE 350		•	ART UNIT	PAPER NUMBER
AUSTIN, TX 78731			2193	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
Office Action Summers	09/940,242	VAN DE VANTER ET AL.				
Office Action Summary	Examiner	Art Unit				
	Todd Ingberg	2193				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply If NO period for reply is specified above, the maximum statutory period we Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	i6(a). In no event, however, may a reply be time within the statutory minimum of thirty (30) days ill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
1) Responsive to communication(s) filed on 26 Ag	<u>oril 2005</u> .					
2a)⊠ This action is FINAL . 2b)☐ This	action is non-final.					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
closed in accordance with the practice under E	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims						
4) Claim(s) <u>1-30</u> is/are pending in the application.						
4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-30</u> is/are rejected. 7)□ Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction and/or election requirement.						
Application Papers						
9) The specification is objected to by the Examiner. 10) The drawing(s) filed on <u>03 March 2003</u> is/are: a) accepted or b) objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119	·					
12) ☐ Acknowledgment is made of a claim for foreign a) ☐ All b) ☐ Some * c) ☐ None of:	priority under 35 U.S.C. § 119(a))-(d) or (f).				
1. Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage						
application from the International Bureau (PCT Rule 17.2(a)).						
* See the attached detailed Office action for a list	of the certified copies not receive	COON TY X				
Attachment(s)		TODD INĞBERG PRIMARY EXAMINER				
1) Notice of References Cited (PTO-892)	4) Interview Summary	(PTO-413)				
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5) Notice of Informal Patent Application (PTO-152)						
Paper No(s)/Mail Date	6) Other:					
.S. Patent and Trademark Office						

DETAILED ACTION

Claims 1 - 30 have been examined.

Claim 1 and 7 have been amended.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 2. Claims 1 15, 19, 21 30 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,311,323 **Shulman** et al.

Examiner's Note: Applicant has taken a low level formal approach to claiming the grammar of their invention. The rejection will focus on the functionality which is supported by the claimed invention and anticipated by the Shulman reference.

The rejection is maintained and argued below in the Response To Arguments section. Claim 1

Shulman anticipates an interactive software engineering tool(Shulman, Abstract, real time tool), which is embodied on a computer readable medium, that, for distinct portions of a single unit of source code(Shulman, figure 4, mytext.f) thereof with behavior according to a corresponding set of lexical rules(Shulman, lexical rules for matching portions of an object to object grammar), wherein transition of the behavior from that in accordance with a first lexical context (the portion as displayed) to that in accordance with a second lexical context (the response in the select window provides the object selections which complete the object grammar) is based on recognition of an opening boundary token (the period is an open boundary token) according to the first lexical context and without use of a structural command to the interactive software engineering tool (The select box appeared via an interpreter based on the open boundary token and partial grammar).

Claim 2

An interactive software engineering tool as recited in claim 1, wherein the behavior includes linguistically-driven typography. (The example depicted in Figure 4 as described in claim 1 is linguistically driven – The rejection as per claim 1).

Claim 3

An interactive software engineering tool as recited in claim 1, wherein the behavior includes lexical analysis of text based on a then operative one of the first and the second lexical contexts. The rejection as per claim 1

Claim 4

An interactive software engineering tool as recited in claim 1, wherein the distinct portions are delimited by the opening boundary token and a corresponding, automatically-added closing boundary token. The rejection as per claim 1 – the selection of the method from the select box closes the boundary token.

Claim 5

An interactive software engineering tool as recited in claim 1, wherein the first and second lexical contexts respectively correspond to one of: a source language lexical context and a textual comment lexical context; a source language lexical context and a string literal lexical context; a source language lexical context and a character lexical context; and first and second source language lexical contexts. The rejection as per claim 1

Claim 6

An interactive software engineering tool as recited in claim 1, wherein the single unit of source code is one of a line, statement or phrase; a function, procedure or **method**; and a markup language element, thereof. The rejection as per claim 1

Claim 7

An interactive software engineering tool, which is embodied on a computer readable medium, that, in response to introduction of a language-defined opening boundary token at a cursor position in an edit buffer, automatically inserts a corresponding closing boundary token, such that display of edit buffer content past the cursor position maintains its pre-introduction association with a first lexical context and with linguistically-driven typography therefor, while subsequent entry at the cursor position is subject to a second lexical context. As per claim 1 the edit buffer being the contents of the buffer containing the method.

Claim 8

An interactive software engineering tool as recited in claim 7, wherein display of symbols entered into the second lexical context is in accordance with linguistically-driven typography distinct from that employed in the first lexical context. As per claim 2.

Claim 9

An interactive software engineering tool as recited in claim 7, wherein lexical analysis of symbols entered into the second lexical context is in accordance with lexical rules distinct from that employed for the first lexical context. As per claim 1.

Claim 10

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An interactive software engineering tool as recited in claim 7, wherein the second lexical context is delimited by the opening and closing boundary tokens. As per claim 1.

Claim 11

An interactive software engineering tool as recited in claim 7, wherein the first and second lexical contexts respectively correspond to one of source language lexical context and a textual comment lexical context; a source language lexical context and a string literal lexical context; a source language lexical context and a character lexical context; and first and second source language lexical contexts. As per claim 1.

Claim 12

Shulman anticipates a method of operating an interactive software engineering tool, the method comprising: rendering a display presentation corresponding to a unit of source code, said display presentation corresponding to at least a first lexical context operative at an insertion point; recognizing interactive entry of an opening boundary token at the insertion point; and in response to said recognition of said opening boundary token, creating a second lexical context operative for subsequent interactive entry at the insertion point, wherein the second lexical context is delimited by said opening boundary token; and a position in the source code immediately following the insertion point, wherein said opening boundary token is a valid lexical token in accordance with one of the first and the second lexical context and not a nonlexical, structural command to the interactive software engineering tool. The rejection as per claim 1

Claim 13

A method as recited in claim 12, further comprising: in response to said recognition of said opening boundary token, automatically inserting at said position in the source code immediately following the insertion point, a closing boundary token. The rejection as per claim 1

Claim 14

A method as recited in claim 12, wherein stylistic rules applied to rendering of symbols within the second lexical context differ from those applied to rendering of symbols within the first lexical context. The rejection as per claim 1

Claim 15

A method as recited in claim 12, wherein lexical rules applied to recognition of tokens within the second lexical context differ from those applied to recognition of tokens within the first lexical context. The rejection as per claim 1

Claim 19

A method as recited in claim 12, wherein the first and second lexical contexts correspond to respective programming language lexical contexts. The rejection as per claim 1

Claim 21

A method as recited in claim 12, wherein transitions between the first and second lexical contexts are performed in response to navigation events and in response to entry of valid lexical

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tokens such that the transitions are transparent to a user of the interactive software engineering tool. The rejection as per claim 1

Claim 22

A method as recited in claim 12, wherein transitions between the first and second lexical contexts are performed in response to navigation events and in response to entry of valid lexical tokens such. that a user of the interactive software engineering tool need not employ structural commands therefor. The rejection as per claim 1

Claim 23

A method as recited in claim 12, wherein the interactive software engineering tool includes one or more of **an editor**; (Shulman, real time tool is showing an editor) a source-level debugger; and a source analyzer.

Claim 24

A method as recited in claim 12, wherein said unit of source code includes one or more of: a line; a statement; a markup language element; and a function or procedure. The rejection as per claim 1

Claim 25

A computer program product. encoded in at least one computer readable medium and comprising: functionally-descriptive encodings of at least first and second language contexts; and instructions at least partially implementing a source, code editor that invokes the second language context nested within the first language context based solely on recognition of a boundary token defined by the first language context and entered at the cursor position, while maintaining pre-existing language context past the cursor position. The rejection as per claim 1

Claim 26

The computer program product of claim 25, embodied as one or more of: **an editor**; a source-level debugger; and a source analyzer. As per claim 23.

Claim 27

The computer program product of claim 25, embodied, at least in part, as a language specialization component for integration with a software engineering tool. The rejection as per claim 1

Claim 28

The computer program product of claim 25, supplied, at least in part, via a communications medium for execution on a computer coupled thereto. The rejection as per claim 1 - monitor

Claim 29

The computer program product of claim 25, wherein the at least one computer readable medium includes at least one of magnetic storage medium, optical storage medium, electronic storage medium, a network medium, wireline medium, wireless medium or other communications medium. As per claim 28.

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Claim 30

A computer system comprising: a display; memory; a language-based editor program executable thereby; and a buffer defined by the source code editor program and instantiable in the memory, wherein the language-based editor program renders contents of the buffer to the display in accordance with an associated language context, and wherein the language-based editor program recognizes entry of a transitional opening token defined by a first language context and, in response thereto, associates text subsequently entered into the buffer at an insertion point thereof with a second language context, while maintaining a pre-existing association between the first language context and contents of the buffer past the insertion point. As per claim 1 the buffer being the storage area in memory of the selection of the selected method.

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Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. Claims 16 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shulman in view of the design choice of programming an opening boundary token. The programming of a character to be matched is well within the ordinary skill of an ordinary artisian prior to the time of invention. Therefore it would have been obvious to select a double quote OR single quote OR double slash OR slash and two asterisks, because the system needs a identifier to invoke the embedding feature.

For claims 16 - 18 the choice of what character to use is a design choice. Even the Specification expressly states the list is not limited to those specific.

Claim 16

A method as recited in claim 12, wherein the first lexical context is a programming language lexical context; wherein the second lexical context is string literal lexical context; and wherein the opening boundary token is a quote (") character.

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Claim 17

A method as recited in claim 12, wherein the first lexical context is a programming language lexical context; wherein the second lexical context is character lexical context; and wherein the opening boundary token is a single quote (') character.

Claim 18

A method as recited in claim 12, wherein the first lexical context is a programming language lexical context; wherein the second lexical context is textual comment lexical context; and wherein the opening boundary token is one of: a multiple line comment token (/*); a single line comment token (//); and a document type comment token (/**).

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shulman in view of SGML as taught by Shafer USPN 5,583,762.

Shulman teaches the embedded lexical content features but does not explicitly mention the use in a markup language. It is Shafer who mentions the use of markup languages (Shafer, Abstract). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Shulman and Shafer because the markup languages like other programming languages contain known constructs that can benefit from tools like Shulman that make the statements syntax correct.

Claim 20

A method as recited in claim 12, wherein at least one of the first and second lexical contexts is a markup language lexical context.

Response to Arguments

6. Applicant's arguments filed April 26, 2005 have been fully considered but they are not fully persuasive. The arguments are scanned in below. Some OCR errors may be present.

I. Claims Rejections Under 35 US.C. 102

Applicant's remarks

"Claims 1-15, 19, and 21-30 are rejected under 35 US. C. §102(b) as being anticipated by U.S. Patent No. 6,311,323 issued to Shulman et al. (hereinafter "Shulman"). Applicant respectfully traverses all of these rejections at least because 1) a line of code and Shulman's associated pop-up window are the same lexical context and not two lexical contexts, 2) Shulman's "member

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access separator" is not an opening boundary token according to a first lexical context, and 3) Shulman never discloses or suggests automatically inserting a closing boundary token. No disclosure or suggestion of a first lexical context and a second lexical context The Office refers to Figure 1 of Shulman and argues that a line of code is a first lexical context, and an assist-window is a second lexical context. However, the line of code and the assist window are within the same lexical context. The line of code in Figure 1 depicts an object and the assist-window provides various member names for the object,-both within the same lexical context. Claims 5 and 11 enumerate some lexical contexts to aid in understanding the term. In rejecting the claims 5 and 11, the Office only focused on "source language lexical context." The claims 5 and 11 recite the first lexical and second lexical contexts as corresponding to one of "a source language lexical context and a textual comment lexical context; a source language lexical context and a string literal lexical context; a source language lexical context and a character lexical context; and a first source language lexical context and a second source language lexical context." In Shulman, the tine of code is in accordance with a source language lexical context and the assist window is in accordance with the source language lexical context. Hence, Shulman does not disclose or suggest a first lexical context and a second lexical context." Examiner's Response

It is the Examiner's understanding that the entry of the period "." Which causes the display as Applicant mentions must cause "an open boundary token". The statement is in one language context and the options to finish the statement are another. After a lack of agreement on this critical point the remaining points are lost. If Applicant and Examiner could agree on this point or gain a clear understanding of the differences, then the prosecution would be advanced. Examiner's suggestion is for Applicant to prepare an agenda based on the figures and Fax them to the Examiner. This would be the focus of an After Final Interview, suggested by the Examiner. The Interview material must contain side by side figures of the instant invention and the Shulman reference to be affective.

Applicant's remarks

"Furthermore, Shulman does not disclose or suggest first and second lexical contexts as recited in claims 1, 7, 12, 25, and 30. Shulman does not disclose or suggest a transition in behavior in accordance with a first lexical context to behavior in accordance with a second lexical context. The line of code and the information presented in the assist window are both in accordance with the same source language lexical context. Shulman does not disclose or suggest "display of edit buffer content past the cursor position maintains its pre-introduction association with a first lexical context ...while subsequent entry at the cursor position is subject to a second lexical context" as recited in claim 7, "creating a second lexical context operative for subsequent interactive entry at the insertion point" as recited in claim 12, "a source code editor that invokes the second language context nested within the first language context based solely on recognition of a boundary token defined by the first language context and entered at the cursor position, while maintaining pre-existing language context past the cursor position" as recited in claim 25, or "the language-based editor program recognizes entry of a transitional opening token defined by a first language context and, in response thereto, associates text subsequently entered into the buffer at an insertion point thereof with a second language context, while maintaining a preexisting association between the first language context and contents of the buffer past the

insertion point" as recited in claim 30. In Shulman, the entry prior and subsequent to the entry at the cursor position is in accordance with the same lexical context. The object identified and the members listed are both in accordance with the same source language lexical context. No disclosure or suggestion of an opening boundary token

Examiner's Response

Actually the Examiner asserts the second context is the suggestion made (Shulman cover, #720). The cursor position is part of the Shulman reference. Cursor not as in mouse cursor but the cursor indicating the position when typing. Cover Shulman ##811

Applicant's remarks

"Shulman discloses opening an assist window responsive to entry of a member access separator (a".") (col. 9, lines 26 - 35). Applicant respectfully submits that this member access separator is not an opening boundary token in accordance with a first language context. As already stated, the entries preceding and subsequent to the member access separator are in accordance with the same source language lexical context. Hence, the member access separator cannot be a boundary token. In addition, the member access separator may initially cause display of the assist window, but the contents of the assist window change in response to additional text entered subsequent to the member access separator (col. 5, lines 1 - 5 and lines 39 - 58). Applicant respectfully submits that characterizing the member access separator as an opening boundary token appears inconsistent with this functionality as disclosed in Shulman with respect to the member access separator at least because there is only one source language lexical context. In claim 1, behavior transitions from being in accordance with a first lexical context to being in accordance with a second lexical context based on recognition of an opening boundary token. Claim 7 recites "in response to introduction of a language-defined opening boundary token ... such that display of edit buffer content past the cursor position maintains its pre-introduction association with a first lexical context and with linguistically-driven typography therefor, while subsequent entry at the cursor position is subject to a second lexical context." Claim 12 recites "in response to said recognition of said opening boundary token, creating a second lexical context operative." Claim 25 recites "a source code editor that invokes the second language context nested within the first language context based solely on recognition of a boundary token." Claim 30 recites "recognizes entry of a transitional opening token defined by a first language context and, in response thereto. associates text subsequently entered ...with a second language context""

Examiner's Response

It is the Examiner's understanding that the entry of the period "." Which causes the display as Applicant mentions must cause "an open boundary token". The statement is in one language context and the options to finish the statement are another. After a lack of agreement on this critical point the remaining points are lost. If Applicant and Examiner could agree on this point or gain a clear understanding of the differences, then the prosecution would be advanced. Examiner's suggestion is for Applicant to prepare an agenda based on the figures and Fax them to the Examiner. This would be the focus of an After Final Interview, suggested by the Examiner.

Applicant's remarks

[&]quot;No disclosure or suggestion of automatically introducing, a closing boundary token

Shulman does not disclose or suggest automatically inserting, in response to introduction of an opening boundary token, a corresponding closing boundary token as recited in claims 7 and 4. The Office refers to the existence of a delimiter in the Figures, however there is no disclosure or suggestion in Shulman of automatically introducing a closing delimiter. In Shulman, when a user enters a delimiter that is a commit key, the delimiter is "included as part of the programming language statement in addition to committing the menu item" (col. 9, lines 28 - 32). Hence, the insertion of the delimiter is not automatic, but in response to the user "pressing a commit key," which is the delimiter."

Examiner's Response

Examiner views the following as meeting the limitation. In the Abstract of Shulman the "non-intrusive" assist window is displayed. In the event, only on choice is possible the display is the completed line. When Examiner reviews the claimed invention. It is not clear nor concise the difference in this scenario and the claim limitations.

Applicant's remarks

"Applicant respectfully submits that none of the claims are disclosed or suggested by Shulman or any other art of record for at least the reasons given above. In addition, the dependent claims are allowable at least because they depend from corresponding ones of the above allowable independent claims."

Examiner's Response

For the reasons mentioned above these claims are not deemed patentable over the prior art of record.

II. Claims Rejections Under 35 US.C. 103

Applicant's remarks

"Claims 16-18 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shulman in view of the design choice of programming an opening boundary token. Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Shulman in view of SGML as taught by U.S. Patent No. 5,583,762 issued to Shafer (hereinafter "Shafer').

Applicant submits that the Office trivializes claims 16-18. The Office separates the limitation of the particular opening boundary token recited in these claims from their functionality as opening boundary tokens between two lexical contexts. The Office completely ignores the recitation of the first and second lexical contexts in all of these claims and only focuses on choice of the opening boundary token. The Office has not shown that each and every limitation of the claims is taught by the art of record."

Examiner's Response

Examiner is not attempting to trivialize what triggers the display of assistance on the screen. Examiner attempts to emphasis the point that what causes the display is a by product of the programming language intended to provide assistance and ends up being part of the design choice required to enable assistance in completing lines of code. In response to the boundary token the Examiner's response above is the critical area which the Examiner states must be present and is generated inherently when the trigger (period above) is entered.

Applicant's remarks

"Claims 16-18 and 20 are at least allowable for the reasons above. In addition, the claims are dependent upon the allowable independent claim 12."

Examiner's Response

For the reasons mentioned above these claims are not deemed patentable over the prior art of record.

Examiner's Observation of History of Field of Endeavor

7. Examiner notes the Background Section of the instant application has a paper incorporated by reference. The paper is authored by the Inventor. It can be argued that the works of the inventor and Teitelman are the most explicit teachings of the cornerstone to the field of endeavor. The many limitations the Applicant seems to be arguing are not matching up are present and needed to enable the commercial products that reflect the figures in the US Patent literature (prior art of record). The ability to perform look ups based on lexical content and a cursor that has built in logic are all part of the Inventor's early enabling work. The claimed invention focuses on the next step of optimizing the display of such information. Optimization being a step made possible by the ground work of the underlying technology disclosed in

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd Ingberg whose telephone number is (571) 272-3723. The examiner can normally be reached on during the work week..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is **571 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Todd Ingberg V
Primary Examiner
Art Unit 2193